

# Siemens Home Comfort Controls

## Award winning style and functionality that's perfectly suited to residential air conditioning

Energy efficient functionality is combined with accurate "flow through" temperature sensing normally only available in commercial style control products. Sophisticated micro-processor control plus modern slimline styling that will fit in with any décor. The Siemens home comfort control system provides central or zoned control of heating and/or cooling HVAC systems.

Heating and cooling systems can be the main energy consumers in houses and apartments, so it makes sense to find ways of reducing this expense. The Siemens home comfort control system allows you to do this, while at the same time enhancing comfort levels throughout the home.

There is no need to go to various suppliers for your HVAC control components. Siemens can provide a complete package including controllers, sensors, control valves and damper actuators. Even if you have a special need for your HVAC equipment or project, we can customize a solution for you.



### Siemens new range of Home Comfort Control for HVAC ducted installations

HVAC control systems for use in residential buildings that have a central ducted and/or cooling installation. Easy to use wall units in combination with an RRV85 – controller are used to control fan speed, heating/cooling generation and zone dampers.

#### Suitable for the following ducted HVAC equipment:

- Cooling only (on/off or 3 position modulating)
- Heating only (on/off or 3 position modulating)
- DX Cooling and electrical heating
- DX Cooling and water heating
- Air to air heat pump (1 or 2 compressor)
- Water to air heat pump (1 or 2 compressor)
- 4 pipe FCU (on/off)
- 2 pipe FCU (on/off or 3 position modulating)
- Single or three speed fan

### Siemens new range of Home Comfort Control for hydronic floor heating

Heating control systems for use in residential buildings that have an under-floor water heating installation. Easy to use wall units in combination with the RRV817 controller are used to control zone valves and a local boiler. Suitable for installations with up to 7 independently controlled zones. The hot water for the floor heating can be supplied from a local boiler, from a central building boiler or from a district heating plant.

#### Standard control system



#### Complete home comfort control

- Programmable timeclock operation
- Easy temporary setpoint adjustment
- Heat, cool or auto heat/cool
- Single or three speed fan
- Auto fan control
- Comfort and energy saving mode
- Remote comfort activation
- Fault input
- Emergency or auxiliary heat output
- Robust relay outputs
- Clear LCD with EL backlight

#### Duo-zone control system



#### plus

**Day-time:** Air condition the living area during the day while isolating the unoccupied bedrooms

**Night-time:** Air condition the bedrooms at night while isolating the unoccupied living area

- Separate night and day zone setpoints
- Energy savings – energy consumption only where you need it

#### Multi-zone control system



#### plus

#### Ultimate comfort with individual temperature control of up to six zones

- Intelligent zone management that can enhance occupant comfort, reduce energy consumption and decrease annoying air noise
- Auto fan speed control based on zone requirements
- Easy 2 wire bus connection of wall units
- Window inputs for auto close of zone air damper

#### Multi-zone control system



#### Ultimate comfort with individual temperature control of up to seven zones

- Intelligent zone management that can enhance occupant comfort and reduce energy consumption
- 24hour programmable time clock
- Easy setpoint adjustment
- Comfort and energy saving mode
- Remote comfort activation
- Automatic boiler release signal based on zone demand
- Easy 2 wire bus connections of wall units
- Clear LCD with EL backlight



## Universal Room Thermostats

### The Basic Solution RAA...

- Simple and affordable
- Easy to use
- On/off output control (2-position control algorithm)
- Manual heat-off-cool change-over

#### RAA... thermostats

RAA... Room thermostats provide affordable solutions for heating, cooling or both heating & cooling. A tamper proof version ideal for schools, public buildings and storage rooms

requiring on/off control output is available. Other models with an additional on/off switch can also be used in heating only or cooling only systems ideal for residential or light industrial buildings.

Variant models with 3-point control output or 2-position on/off heating and cooling output with manual heat-off-cool changeover also exists. The RAA... Family may be used in conjunction with zone valves, thermal valves, gas or oil burners, fans and pumps.



### The Modern Solution RCU...

- Stylish and functional
- Micro-processor based technology
- Operating mode changeover inputs

#### Selections Available

- Minimum air volume limitation cooling function for VAV models
- External set-point shift input
- Remote air temperature sensor input
- Automatic or manual heat-cool changeover
- On/off, pwm, 3-point and 0...10V control

#### RCU... thermostats

The RCU room thermostats incorporate the latest in microprocessor technology that gives you more flexibility.

The RCU.. family universal type thermostat is designed for heating, cooling or both heating and cooling or 2 stage heating sequences and

cooling with electric heating. Versions with 2-position, modulating PI Control (On/Off or PWM) and 0...10Vdc are available. Other features include, different operating modes such as stand-by, energy saving, normal mode or off. Manual or automatic changeover used in conjunction with heat-cool changeover sensor models are also available.

An optional remote temperature sensor allows control according to the return air temperature. Economy or energy saving mode – commanded by an auxiliary contact (window contact, presence sensor, and card key – or keyboard switch) helps save energy. More options such as frost protection is available by DIP switch selection and external set point shift control for use with variable air volume systems truly make the RCU... family the most flexible thermostat.



### The Advanced Solution RDU...

- Advanced digital features at your finger tips
- Digital LCD display
- Micro-processor based technology
- Operating mode changeover inputs

#### Selections Available

- Minimum air volume limitation
- Remote air temperature sensor input
- Automatic or manual heat-cool changeover
- 3-point or 0...10V control

#### RDU... thermostats

RDU room thermostats are designed for universal and variable air volume systems that require both heating or cooling. The RDU... family combines the digital features you have always wanted in a digital thermostat with full functionality and appearance in mind. Different RDU models are available with modulating PI control for 3-point or 0...10Vdc control.

The RDU... Family thermostat has built-in selectable parameters that allow you to change heating or cooling set points of the energy saving mode, minimum or maximum set point limitation, heat-cool changeover switching point in heating or cooling mode, sensor calibration, P-bands, Integral action time and minimum output limitation in cooling mode.

More features include, an optional remote temperature sensor that allows control according to the return air temperature. Two different operating modes such as normal mode or energy saving mode – commanded by an auxiliary contact (window contact, pressure sensor, and card key – or keyboard switch) helps save energy. Manual or automatic changeover used in conjunction with heat-cool changeover sensor models are also available. With the RDU "Digital Comfort" thermostat, you get it right the first time.



# Overview of Siemens Universal Room Thermostats Range

MODEL		APPLICATION						FUNCTION					OUTPUTS				INPUTS				POWER SUPPLY	USER INTERFACE	
		Heating only	Cooling only	Heating or cooling	Heating and cooling	2 heating sequences	Cooling or heating & electric heating	Automatic heat-cool change over	Manual heat-cool change over	Control Algorithm	Vmin cooling	Minimum limitation of supply air temperature	Digital Display (LCD)	On/Off	PWM	3-point	0...10V	Operation mode change over contact (e.g. window contact or card key reader)	Heat-cool change over sensor	Remote or return air temperature sensor			External setpoint shift
The Basic Solution																							
Easy Fix	RAA10	•	•						2P				•								AC24...250V	tamperproof	
	RAA20	•	•						2P				•									setpoint knob	
	RAA30	•	•						2P				•									setpoint knob, on/off switch	
	RAA40			•				•	2P				•									setpoint knob, heat/off/cool switch	
	RAA40.1			•				•	2P						•								
	RAA40.2				•			•	2P				•										
The Modern Solution																							
Handyman	RCU10				•	•	•			PI				•	•			•				AC230V	setpoint knob
	RCU10.1				•	•	•			PI				•	•			•				AC230V	setpoint knob, op mode switch
	RCU15				•	•				PI				•	•			•		•		AC24V	setpoint knob
	RCU20	•	•	•				•		PI						•		•	•			AC230V	
	RCU50	•	•	•				•		P	•						•	•	•		• <sup>1)</sup>	AC24V	setpoint knob, op mode switch
	RCU50.1	•	•	•				•		P	•						•	•	•		• <sup>1)</sup>		setpoint knob, heat/off/cool switch
	RCU50.2	•	•	•					•	P							•						setpoint knob
	RCU60				•		•			P	•				•		•	•			• <sup>1)</sup>		setpoint knob, op mode switch
	RCU60.1				•		•			P	•				•		•	•			• <sup>1)</sup>		setpoint knob
	RCU61				•					P	•					•	•	•			• <sup>1)</sup>		setpoint knob, op mode switch
	RCU61.1				•					P	•					•	•	•			• <sup>1)</sup>		setpoint knob
	RLA162	•	•		•	•				PI		•					•				• <sup>2)</sup>		setpoint knob, op mode switch
RLA162	•	•		•	•				PI			•				•				• <sup>2)</sup>	setpoint knob		
The Advanced Solution																							
Digital comfort	RDU20	•	•	•				•		PI			•			•		•	•	•		AC230V	setpoint buttons
	RDU50	•	•	•				•		PI	•		•				•	•	•	•		AC24V	
	RDU50.2	•	•	•					•	PI	•		•				•	•	•	•			

1) External set point shift by 0 to 10V input  
2) External set point shift by outdoor temperature sensor



## Heating Thermostat



**The Standard Thermostats** suit customers for whom affordability and simplicity are the top priorities.

- Stylish and slim design
- Quick and easy installation
- Easy operation
- Options for AC230V or battery supply versions



**The Push and Roll Thermostats** have a unique roller-selector programming interface.

- Elegant design
- Push and Roll interface
- Options for 24-hour, 7-day or 5/2 day program



**The Touch Screen Thermostats** have a futuristic and intuitive user interface.

- Futuristic design
- Touch screen interface for easier programming
- Option for backlight display
- Options for 24-hour, 7-day program



- Easy installation
- Optimum in home comfort and energy saving
- Options for 2-position or 3-position output
- Options for telephone contact
- Option for holiday mode

Model		Application		Functionality										Power	User Interface	
		Heating only	Cooling only	Control Algorithm	LCD	Delay thmer	Daily time program	Weekday / Weekend time program	Weekly time program	On / Off	3-point	External temperature sensor	Remote telephone contact			
Standard	The Standard Solution															
	RDD10	•		2P	•	•				•				AC230V	Setpoint buttons, op mode button, timer-set button	
	RDD10.1	•		2P	•	•				•				Battery		
	RDE10	•		2P	•					•	•				AC230V	Setpoint buttons, op mode button, programming button
	RDE10.1	•		2P	•					•	•				Battery	
RDE20.1	•		2P	•					•	•		•				
Push and Roll	The Elite Solutio															
	REV12	•		PID	•		•			•				Battery	Setpoint buttons, op mode button, programming with roller-selector	
	REV16	•		PID	•		•	•		•			•			
	REV23	•	•	PID	•		•	•	•	•			•			
	REV33	•		PI	•		•	•	•		•		•			
Touch Screen																
	REV100	•		PID	•		•			•			•	Battery	Touch screen	
	REV200	•	•	PID	•		•		•	•			•			
	REV300	•		PI	•		•		•		•		•			

## Fan Coil Unit Thermostats

### The Basic Solution RAB...

Electromechanical fan coil thermostats RAB...

- very versatile
- stylish design
- user-friendly
- high quality
- quick and easy installation

### Fan coil thermostats RAB...

The room thermostats of the RAB... range from Siemens are especially designed for heating and cooling with fan coil units to maintain the selected room temperature.

### The Modern Solution RCC...

Electronic fan coil thermostats RCC...

- very versatile
- stylish design
- user-friendly
- quick and easy installation
- auxiliary input (e.g. card key activation)
- automatic heat-cool changeover
- humidity damage prevention function

### Fan coil thermostats RCC...

RCC Thermostats are used for heating, cooling or both heating & cooling with automatic changeover. They offer, microprocessor-controlled room temperature control for fan coil applications. The RCC family members combine easiest operation with the highest flexibility. This, and the nice design, makes them especially suitable for hotel rooms. The required room temperature is selected via the setpoint knob on the front of the

The thermostats are two-position controllers with a two-wire connection and acquire the room temperature with the help of a gas expansion diaphragm. The required room temperature is selected with the setpoint knob on the front of the unit. The fan speed is selected via a three-position switch, and is also located on the front. The fan may continuously run at the selected speed or only when an output is activated.

thermostat. A temperature sensor (internal or remote) senses the actual room temperature and maintains the set value by controlling the heating/cooling valves. An "On/Off" or "3-point" or even a precise analogue output signal is available. Automatic changeover from heating to cooling and vice versa in a 2-pipe system is possible via a cable temperature sensor. The fan speed can be selected via a three-position switch, also located on the front. LED's at the front indicate whether the controller is heating or cooling and if the fan is running. An optional remote temperature sensor allows control according to the return air temperature. Economy mode is commanded by an auxiliary contact (window contact, presence sensor, and card key-or keyboard switch) can help to save energy.

### The Advanced Solution RDF...

Electronic fan coil thermostats with display RDF...

- stylish design with a digital display
- very versatile
- user-friendly
- quick and easy installation
- auxiliary input (e.g. card key activation)
- humidity damage prevention
- automatic heat-cool changeover
- high flexibility

### Fan coil thermostats RDF...

RDF Thermostats are used for heating, cooling or both heating & cooling with automatic changeover. A version with manual change-over is also available. They offer, microprocessor-controlled room temperature control for fan coil applications, The RDF family members combine easiest operation, highest flexibility with a new feature: a digital display. This, and the nice design, makes them

especially suitable for offices and also for hotel rooms where a display is required. The required room temperature is selected via push buttons on the front of the thermostat. A temperature sensor (internal or remote) senses the actual room temperature and maintains the set value by controlling the heating/cooling valves. An "On/Off" or "3-point" or even a precise analogue output signal is available. Automatic changeover from heating to cooling and vice versa in a 2-pipe system is possible via a cable temperature sensor. The fan speed can be selected via a three-position switch, also located on the front. The humidity damage prevention function works in conjunction with a card key reader and is especially designed for hotels in a warm and humid climate (asset protection). An optional remote temperature sensor allows control according to the return air temperature.



Simplicity and affordability



Full functionality



Highest Flexibility

Overview of the Siemens Fan Coil Unit Room Thermostat Range

MODEL	APPLICATION							FUNCTIONALITY										OUTPUTS			INPUTS			POWER SUPPLY	USER INTERFACE	
	2-pipe/heating only	2-pipe/cooling only	2-pipe/heating or cooling	2-pipe/cooling & electric heating	2-pipe/cooling or heating & elec, heating	4-pipe/cooling & heating	Control Algorithm	Manual heat-cool changeover	Automatic heat-cool changeover <sup>(1)</sup>	Manual fan speed off/II/III/IIII	Automatic fan speed	Asset protection	Ventilation function	Fan cycling	Weekly-time program	LED's	Digital display	Infrared remote control <sup>(2)</sup>	On/Off	0...10V	3-point	Operating mode changeover contact	Return air temperature sensor			Heat-cool changeover sensor
The Basic Solution																										
RAB10			●				2P	●		●				●					●						AC24...250V	fan switch, heat-cool co switch, setpoint knob
RAB10.1			●				2P	●		●			●	●					●							fan switch, vent-heat-cool switch, setpoint knob
RAB20	●	●	●				2P		●	●				●					●							fan switch, setpoint knob
RAB20.1	●	●	●				2P		●	●			●	●					●							fan switch, heat/cool-vent switch, setpoint knob
RAB30						●	2P	●		●				●					●							fan switch, heat-cool co switch, setpoint knob
RAB30.1						●	2P	●		●			●	●					●							fan switch, heat-vent-cool co switch, setpoint knob
RAB40.1		●					2P			●			●	●					●							fan switch, cool(compressor)-vent-off switch, setpoint knob
The Modern Solution																										
RCC10	●	●	●				2P		●	●				●		●			●			●	●	●	AC230V	fan switch, setpoint knob
RCC10.1	●	●	●				2P		●	●		●		●		●			●			●		●		
RCC20				●	●		2P		●	●				●		●			●			●	●	●		
RCC30						●	2P			●				●		●			●			●	●			
RCC50.1	●	●	●				PI		●	●		●		●		●				●		●		●	AC24V	
RCC60.1	●	●	●				PI		●	●		●		●		●					●	●		●	AC230V	
The Advanced Solution																										
RDF10	●	●	●				2P		●	●		●		●			●		●			●	●	●	AC230V	fan switch, setpoint buttons
RDF10.2			●				2P	●		●				●			●		●							fan switch, setpoint buttons, heat-cool switch
RDF20				●	●		2P		●	●		●		●			●		●			●	●	●		fan switch, setpoint buttons
RDF30						●	2P			●		●		●			●		●			●	●			
RDF50.1	●	●	●				PI		●	●		●		●			●			●		●	●	●	AC24V	
RDF60.1	●	●	●				PI		●	●		●		●			●				●	●	●	●	AC230V	
RDF110	●	●	●				2P		●	●	●	●		●			●	●	●			●	ⓘ	ⓘ	AC230V	fan speed button, setpoint buttons
RDF110.2			●				2P	●		●	●	●		●			●	●	●							fan speed button, setpoint button, heat-cool co button
RDF210	●	●	●				2P		●	●	●	●		●	●		●	●	●			ⓘ	ⓘ			fan speed button, setpoint buttons, time-programming buttons
RDF210.2			●				2P	●		●	●	●		●	●		●	●	●							fan speed button, setpoint buttons, heat-cool co button, time-programming button

1) With external cable sensor for RCC & RDF and aquastat for RAB  
2) Infrared remote control optional  
3) Either return air temperature sensor of heat-cool changeover sensor